

D³
desaturase activity has been decreased or is lacking, wherein said lipid is obtainable by extracting microbial cells with an organic solvent, and further wherein said microorganism is obtained by the mutagenesis of a microorganism capable of producing arachidonic acid and belonging to the genus *Mortierella*, the genus *Conidiobolus*, the genus *Pythium*, the genus *Phytophthora*, the genus *Penicillium*, the genus *Cladosporium*, the genus *Mucor*, the genus *Fusarium*, the genus *Aspergillus*, the genus *Rhodotorula*, the genus *Entomophthora*, the genus *Echinosporangium* or the genus *Saprolegnia*.

D⁴
21. (Amended) An arachidonic acid-containing microbial lipid containing 72 % by weight or more of arachidonic acid in fat per total fatty acids in said fat, wherein the percentage of eicosapentaenoic acid to the total fatty acids in said lipid is 0.5% by weight or less.

D⁵
27. (Amended) An isolated arachidonic acid-containing microbial lipid, wherein the arachidonic acid content per the total fatty acid in the lipid is 50% by weight or more, wherein the percentage of eicosapentaenoic acid to the total fatty acids in the lipid is 0.5% by weight or less, and wherein the lipid is obtainable by culturing a microorganism in which ω 3 desaturase activity has been decreased or is lacking at a temperature lower than the optimum growth temperature from the start of culturing or after culturing at the optimum growth temperature, said microorganism being obtained by mutagenesis of a microorganism capable of producing arachidonic acid and belonging to the genus *Mortierella*, the genus *Conidiobolus*, the genus *Pythium*, the genus *Phytophthora*, the

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genus *Penicillium*, the genus *Cladosporium*, the genus *Mucor*, the genus *Fusarium*, the
genus *Aspergillus*, the genus *Rhodotorula*, the genus *Entomophthora*, the genus
Echinozporangium or the genus *Saprolegnia*; and then

recovering said arachidonic acid-containing microbial lipid from the culture.

34. (Amended) The lipid according to claim 27, wherein the microorganism
belongs to the genus *Mortierella*.

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35. (Amended) The lipid according to claim 34, wherein the microorganism
belonging to the genus *Mortierella* is *Mortierella alpina*.
